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Signature

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K/EM-355

SANITIZED VERSION OF EXTRACT FROM LABORATORY DIVISION MONTHLY ACTIVITIES REPORT SEPTEMBER 1974

(EXTRACTED FROM CRD DOCUMENT # K-TL-430/PT3)

Compiled by
S. G. Thornton
Environmental Management Division
OAK RIDGE K-25 SITE
for the Health Studies Agreement

December 21, 1995

Oak Ridge K-25 Site
Oak Ridge, Tennessee 37831-7314
managed by
LOCKHEED MARTIN ENERGY SYSTEMS, INC.
for the U.S. DEPARTMENT OF ENERGY
under Contract DE-AC05-84OR21400

K-TL-430, Part 3

This document consists of 50 pages
No 34 of 48 copies, Series A.

LABORATORY DIVISION
MONTHLY ACTIVITIES REPORT (U)

SEPTEMBER 1974

Compiled by

J. D. Joyner

[redacted]

J. C. Barton
Division Superintendent

October 10, 1974

UNION CARBIDE
OAK RIDGE GASEOUS DIFFUSION PLANT
OAK RIDGE, TENNESSEE

prepared for the U.S. ATOMIC ENERGY COMMISSION
under U.S. GOVERNMENT *Contract* W-7405 eng 26

G. W. Cagle
Classifying Official

Technical Information Department Head
Title of Position

ISOTOPIC ANALYSIS DEPARTMENT
L. A. Smith

CHEMICAL MASS SPECTROMETRY - O. H. Howard

Chlorine Determined by Spark Source Mass Spectrography - O. H. Howard

[Keywords: Spark Source Mass Spectrography]

The concentration of chlorine was determined by spark source mass spectrography. A concentration of 200 wt ppm was obtained on three samples; the results agreed with the 100 ppm obtained by ORNL using neutron activation, within the expected error of the mass spectrographic method, since a standard sample is not available for calibrating.

HEALTH PHYSICS - J. C. Bailey

K-413 Uranium Hexafluoride Release

[Keywords: Uranium Hexafluoride-Radiation Effects]

On August 23, 1974 a UF_6 release occurred in the K-413 Product Withdrawal Facility as a result of localized corrosion in a 1/4-in.-dia instrument line on the high-pressure side of the withdrawal system. Although the estimated release was less than one pound of UF_6, visible fog passed into the adjacent K-1233 building where construction personnel were working, thereby subjecting 24 contractor and 4 Carbide employees to possible inhalation of uranium materials. Therefore, health physics appraisal required the analysis of urine specimens from these people. The highest exposure, as determined from urinalysis results, amounted approximately to exposure for one calendar quarter to 1.6% of the AEC Radiation Control value applicable to continuous exposure. The levels of uranium intake were therefore not significant from the standpoint of radiation exposure.

Health Physics Standards for CUP/CIP

[Keywords: Health Physics-Radiation Protection]

The Paducah, Portsmouth, and Oak Ridge Gaseous Diffusion Plants are attempting to reach common agreement on health physics practices and standards as these relate to projected CUP/CIP program costs. Subject to approval by the plant managements, significant changes in contamination control levels for equipment being handled in the shops will be effected. The direct alpha reading value will be changed from 500 to 2500 counts/min/100 cm^2 and the wipe value from 100 to 500 counts/min/100 cm^2. These changes are based on experimental data obtained by Y-12 health physics personnel which showed that even activities such as grinding, welding, and cutting of surfaces contaminated to these levels do not cause airborne activity in excess of about 20% of the AEC Radiation Control value.

DISTRIBUTION

1. K-25 Site Records (RC)
2. ChemRisk/Shonka Research Associates
3. S. G. Thornton (K-25 EMD)
4. DOE Public Reading Room